

REMARKS/ARGUMENTS

Claims 1 and 5 have been amended. Claim 19-22 have been added. Claims 2-4 have been canceled.

Claim 1 has been amended as suggested by the Examiner and to incorporate the limitations of claims 2-4, which have been canceled.

The Examiner rejected claims 1-10 under 35 U.S.C. 112, second paragraph as being indefinite. Claim 1 has been amended according to the Examiner's suggestion.

The Examiner rejected claims 1-10 under 35 U.S.C. 103(a), as being unpatentable over Alexander (U.S. 5,661,882). in view of Iwanami (U.S. 6,384,706).

Claim 1 has been amended to incorporate the limitations of claims 2-4. It would not be obvious to combine Alexander and Iwanami to obtain the invention as recited in claim 1, as amended. Neither Alexander nor Iwanami disclose or suggest a three-dimensional inductor comprising a first winding, a second winding spaced vertically apart from the first winding and printed on part of the first winding to form an electrical connection between the first winding and the second winding, a dielectric layer between the first winding and second winding, where part of the second winding is printed on the dielectric layer, a third winding vertically spaced apart from the second winding and a second dielectric layer separating the second winding from the third winding where the third winding is printed on the dielectric layer and at least part of the second winding to create an electrical connection between the first winding and the second winding, as recited in claim 1, as amended.

Instead of teaching a three-dimensional inductor as recited in claim 1, Iwanami teaches planar inductors placed on opposite sides of a dielectric connected by a connection line, as shown in FIG. 2B of Iwanami. Iwanami does not teach a second winding vertically spaced apart from the first winding where part of the second winding is printed on the first winding to form an electrical connection and where the second winding and where a dielectric layer separates part of the first winding and second winding where the second winding is printed on the dielectric layer. Instead of electrical interconnects by printing part of one winding on another, the Examiner sites interconnects by means of vias 7. Nothing in Alexander discloses or suggests this feature.

Even if the inductors of Iwanami were considered three-dimensional inductors, as recited in claim 1, it would not be obvious to place the inductors of Iwanami into the device of Alexander. Iwanami in the abstract discloses that the inductors are formed on a multilayer printed board. Col. 1, lines 25-32, of Iwanami discloses that IC or LSI are to be mounted on the multilayer printed board. Iwanami does not suggest mounting such a board in an LTCC tape structure. Three-dimensional inductors that were made in the prior art were too big to place into an LTCC tape structure as claimed. Iwanami and Alexander do not disclose or suggest creating a three-dimensional inductor that is small enough to place in the LTCC tape structure of Alexander. The Examiner failed to point out anything in Alexander that teaches or suggests that the electronic structure may be a three-dimensional inductor. For at least these reasons, claim 1 is not made obvious by Alexander in view of Iwanami.

Claims 5-10 and 19-22 each depend either directly or indirectly on the independent claims, and are therefore respectfully submitted to be patentable over the art of record for at least the reasons set forth above with respect to the independent claims. Additionally, these dependent claims require additional elements that when taken in the context of the claimed invention, further patentably distinguish the art of record.

For example, claim 8 further recites that the second coil winding is the same shape and location as the first coil winding only being displaced vertically with respect to the first coil winding. The Examiner failed to point out anything in Alexander or Iwanami that teaches or suggests this. Instead, Iwanami teaches that vertically displaced coil windings are not identical as shown in FIG. 2A and FIG. 2B.

In addition, claim 19 recites that the tape layer is several times thicker than the dielectric layer. This is supported by page 14, lines 28-30, of the application. It would not be obvious to be able to successfully print the inductors of Iwanami on a dielectric sheet that is several times thinner than the dielectric tape.

In addition, claim 20 more clearly defines that the vertical direction is along the thickness of the tape layer. This is supported on page 15, lines 2-4, of the application.

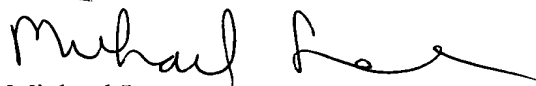
In addition, claims 21 and 22 further recited that the three-dimensional inductor forms a three-dimensional coil. This is supported on page 13, line 10, of the application. The coils in Iwanami are flat coils not three-dimensional coils. Alexander does not disclose or suggest three-dimensional coils.

For at least these reasons, the dependent claims are not disclosed or made obvious by the cited references.

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at telephone number (831) 655-2300.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read "Michael Lee", with a long horizontal flourish extending to the right.

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